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10/707,371	12/09/2003	Alex Elkin	•	1370
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4 LAKEVIEW DRIVE LITTLETON, MA 01460			WANG, BEN C	
			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

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	Application No.	Applicant(s)				
Office Action Comment	10/707,371	ELKIN, ALEX				
Office Action Summary	Examiner	Art Unit				
	Ben C. Wang	2192				
The MAILING DATE of this communication app Period for Reply	ears on the cover sheet with the co	orrespondence address				
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION. - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication. - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication. - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).						
Status						
1) Responsive to communication(s) filed on 09 De	ecember 2003.					
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	· · · · · · · · · · · · · · · · · · ·					
,	closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.					
Disposition of Claims						
The <u>residence of the second o</u>						
	 ○ Claim(s) 1-15 is/are pending in the application. 4a) Of the above claim(s) is/are withdrawn from consideration. 					
5) Claim(s) is/are allowed.	_ ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '					
6)⊠ Claim(s) <u>1-15</u> is/are rejected.	· · · · · · · · · · · · · · · · · · ·					
7) Claim(s) is/are objected to.						
·	election requirement					
Application Papers						
9) The specification is objected to by the Examiner.						
10) ☐ The drawing(s) filed on is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.						
	Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).					
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).						
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.						
Priority under 35 U.S.C. § 119						
12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of:						
1. Certified copies of the priority documents	1. Certified copies of the priority documents have been received.					
2. Certified copies of the priority documents	2. Certified copies of the priority documents have been received in Application No					
Copies of the certified copies of the prior	3. Copies of the certified copies of the priority documents have been received in this National Stage					
application from the International Bureau	application from the International Bureau (PCT Rule 17.2(a)).					
* See the attached detailed Office action for a list of the certified copies not received.						
Attachment(a)						
Attachment(s) 1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413)						
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) Paper No(s)/Mail Date						
3) Information Disclosure Statement(s) (PTO/SB/08)						
Paper No(s)/Mail Date 6)						

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DETAILED ACTION

1. Claims 1-15 are pending in this application and presented for examination.

Specification Objections

- 1. The specification is objected to because the following informalities:
 - "could be formatted as XML structures, or a Microsoft Word", cited in [0008], line 7. Microsoft Word is a registered trademark.

Appropriate correction is required.

Claim Objections

- 2. Claims 3 and 8-9 are objected to because the following informalities:
 - "component. The Process Controller uses the instance of", claim 3, line 4, should be corrected as "component; the Process Controller uses the instance of".
 - "as an absence of the next step in the process,", claim 8, line 3, should be corrected as "as an absence of the next step in the process;".
 - "Execution System. The interface includes the ability to", claim 9, line 3, should be corrected as "Execution System; the interface includes the ability to".

Appropriate correction is required.

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Claim Rejections - 35 USC § 101

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3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

- 4. Claims 1-7 and 12-15 are rejected under 35 U.S.C 101 because the claims are directed to non-statutory subject matter.
- 5. **As to claim 1**, the claim recites "a method for managing a process control in a distributed dynamic environment, the method comprising: including the process schema..., providing ... controller component..., providing ... Agent components." (underline emphasis added above) in lines 1-6. There is no further step(s) has been cited/provided that would achieve and/or produce a tangible result from this claim (see MPEP 2106 (IV)(C)(2)).
- 6. **As to claims 2-7**, the claims fail to remedy the deficiencies as noted above, thus also being rejected under the same rational.
- 7. **As to claim 12**, the claim recites "a software system <u>for enabling a user to change the process schema....</u> without making any changes in the software system implementation or deployment." (underline emphasis added above) in lines 1-4. There is no further step(s) has been cited/provided that would achieve and/or produce a tangible result from this claim (see MPEP 2106 (IV)(C)(2)).

Moreover, a "software system" is being cited; however, it appears that the software system would reasonably be interpreted by one of ordinary skill in the

art as software per se, are not physical "things". They are neither computer components nor statutory processes, as they are not "act" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. In contrast, a claimed computer readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. Accordingly, it is important to distinguish claims that define descriptive material per se from claims that define statutory inventions. (See MPEP 2106.01(I)).

- 8. **As to claims 13-15**, the claims fail to remedy the deficiencies as noted above, thus also being rejected under the same rational.
- 9. **As to claim 13**, the claim recites "a software system ... comprising: ... Process Controllers and ... Agents ..; the system <u>may</u> have pre-existing Master Process Schema for <u>every possible type of process</u>." in lines 1-4. There is further step(s) has been cited/provided that would achieve tangible result produced from this claim (see MPEP 2106 (IV)(C)(2)).

Claim Rejections - 35 USC § 112

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

- 11. Claims 12-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.
- 12. Claim 12 recites the limitation "A software system for enabling a user to change the process schema ... without making any changes in the software system implementation or deployment", (emphasis added) in lines 1-4. A single means claim, i.e., where a means recitation does not appear in combination with another recited element of means, is subject to an undue breadth rejection under 35 U.S.C. 112, first paragraph. In re Hyatt, 708 F.2d 712, 714-715, 218 USPQ 195, 197 (Fed. Cir. 1983) (A single means claim which covered every conceivable means for achieving the stated purpose was held nonenabling for the scope of the claim because the specification disclosed at most only those means known to the inventor.). When claims depend on a recited property, a fact situation comparable to Hyatt is possible, where the claim covers every

conceivable structure (means) for achieving the stated property (result) while the specification discloses at most only those known to the inventor.

- 13. Claims 13-15 are being rejected under the same rational above as being dependent upon the rejected base claim 13.
- 14. The following is a quotation of the second paragraph of 35 U.S.C. 112:
 The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
- 15. Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
- 16. Claim 1 recites the limitation "a method for managing a process control in a distributed dynamic environment, the method comprising: including the process schema..., providing ... controller component..., providing ... Agent components." (emphasis added) in lines 1-6. There is no further step(s) has been cited/provided that would achieve and/or produce a tangible result from this claim.
- 17. Claims 2-10 are being rejected under the same rational above as being dependent upon the rejected base claim 1.

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18. Claim 12 recites the limitation "a software for enabling a user to change the process schema.... without making any changes in the software system implementation or deployment." (emphasis added) in lines 1-4. There is no further step(s) has been cited/provided that would achieve and/or produce a tangible result from this claim.

- 19. Claims 13-15 are being rejected under the same rational above as being dependent upon the rejected base claim 12.
- 20. Claim 13 recites the limitation "a software system ... comprising: ...

 Process Controllers and ... one or more Agents; the system may have preexisting Master Process Schema for every possible type of process" in lines 1-4.

 The terms "may", "possible" (emphasis added) are "vague and indefinite". The
 term "Agents" (emphasis added) is not consistently used with the term "agent
 components" previously used in the claims above.

Claim Rejections – 35 USC § 102(e)

21. The following is quotation of 35 U.S.C. 102(e) which form the basis for all obviousness rejections set forth in this office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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22. Claim 12 is rejected under 35 U.S.C. 102(e) as being anticipated by Caswell et al., (Pat. No. 6,662,355 B1) (hereinafter 'Caswell')

23. **As to claim 12**, Caswell discloses a software system for enabling a user to change the process schema (Col. 3, Lines 39-40; Col. 4, Lines 16-25) for the given instance of the process without making any changes in the software system implementation or deployment (Col. 4, Lines 33-44).

Claim Rejections – 35 USC § 103(a)

- 24. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 25. Claims 1-11, 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Caswell in view of Leymann et al., (Pat. No. US 7,024,670 B1) (hereinafter 'Leymann')
- 26. **As to claim 1**, Caswell discloses a method for managing a process control in a distributed dynamic environment, the method comprising: including the process schema (Col. 5, Lines 12-19; Col. 9, Lines 62-67; Col. 14, Lines 31-34) with the process data of an individual process instance; providing one or

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more Agent components (Fig. 2; Col. 2, Lines 62-63; Fig. 5; Col. 16, Lines 12-34).

Although Caswell discloses the agent component (Fig. 2; Col. 2, Lines 62-63; Fig. 5; Col. 16, Lines 12-34) and the process schema (Col. 5, Lines 12-19; Col. 9, Lines 62-67; Col. 14, Lines 31-34) but does not explicitly discloses providing one or more Controller components.

However, in an analogous art of timed start-conditions for activities in workflow management system, Leymann discloses providing one or more Controller components (Figs 1-4; Col. 8, Lines 63-66; Col. 9, Lines 31-39; Col. 10, Lines 19-47; Col. 11, Lines 10-15).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to combine the teachings of Leymann into the Caswell's system to further provide one or more Controller components in Caswell system.

The motivation is that it would enhance and/or improve the Caswell's system by taking, advancing and/or incorporating Leymann's system which facilitates the management of business process, provides a means to describe models of business processes and further drives business processes based on an associated model as once suggested by Leymann (i.e., Col. 4, Lines 44-65).

27. **As to claim 2**, incorporating the rejection in claim 1, Caswell discloses a method wherein the instance of the process schema is attached to the data that belongs to the individual process instance (Fig. 2; Col. 6, Lines 29-44).

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28. **As to claim 3**, incorporating the rejection in claim 2, although Caswell discloses the agent component (Fig. 2; Col. 2, Lines 62-63; Fig. 5; Col. 16, Lines 12-34) and the process schema (Col. 5, Lines 12-19; Col. 9, Lines 62-67; Col. 14, Lines 31-34) but does not explicitly discloses a method wherein the process schema is represented in a format that can be interpreted or executed by the Process Controller software component; the Process Controller uses the instance of the schema to determine the next activity to be executed for this process instance.

However, in an analogous art of timed start-conditions for activities in workflow management system, Leymann discloses a method wherein the process schema is represented in a format (Figs. 3-4; Col. 10, Lines 19-47; Col. 11, Lines 10-15) that can be interpreted or executed by the Process Controller software component (Col. 4, Lines 44-58 – the software system can work as an interpreter basically getting as input such as model); the Process Controller uses the instance of the schema to determine the next activity to be executed for this process instance (Col. 4, Lines 44-58 – it is a schema describing all possible execution variants of a particular kind of business process).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to combine the teachings of Leymann into the Caswell's system to further provide a method wherein the process schema is represented in a format that can be interpreted or executed by the Process Controller software component; the Process Controller uses the instance of the

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schema to determine the next activity to be executed for this process instance in Caswell system.

The motivation is that it would enhance and/or improve the Caswell's system by taking, advancing and/or incorporating Leymann's system which facilitates the management of business process, provides a means to describe models of business processes and further drives business processes based on an associated model as once suggested by Leymann (i.e., Col. 4, Lines 44-65).

29. **As to claim 4**, incorporating the rejection in claim 3, Caswell does not disclose a method wherein the Process Controller does not require any previously implemented, coded, scripted, or any other information about the process schema beyond the one that comes with the process instance.

However, in an analogous art of timed start-conditions for activities in workflow management system, Leymann discloses a method wherein the Process Controller does not require any previously implemented, coded, scripted, or any other information about the process schema beyond the one that comes with the process instance (Figs 1-4; Col. 8, Lines 63-66; Col. 9, Lines 31-39; Col. 10, Lines 19-47; Col. 11, Lines 10-15).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to combine the teachings of Leymann into the Caswell's system to further provide a method wherein the Process Controller does not require any previously implemented, coded, scripted, or any other

information about the process schema beyond the one that comes with the process instance in Caswell system.

The motivation is that it would enhance and/or improve the Caswell's system by taking, advancing and/or incorporating Leymann's system which facilitates the management of business process, provides a means to describe models of business processes and further drives business processes based on an associated model as once suggested by Leymann (i.e., Col. 4, Lines 44-65).

- 30. **As to claim 5**, incorporating the rejection in claim 2, Caswell discloses a method wherein the process schema can be modified by the Agent software component as a part of one or more of the activities in the process (Col. 6, Lines 65 through Col. 7, Line 2; Col. 4, Lines 16-19, 33-36).
- 31. **As to claim 6**, incorporating the rejection in claim 5, Caswell discloses a method wherein the Agent component provides programming and user interface for modifications of the process schema instance (Col. 6, Lines 65 through Col. 7, Line 2; Col. 4, Lines 16-19, 33-36).
- 32. **As to claim 7**, incorporating the rejection in claim 6, Caswell discloses a method wherein the process schema may contain restrictions on the modifications (Col. 4, Lines 21-25).

33. **As to claim 8**, incorporating the rejection in claim 2, Caswell does not disclose a method wherein the schema may contain one or more conditions of incompleteness defined as an absence of the next step in the process; when a Controller reaches such a point of incompleteness it forces the user of an activity to eliminate the incompleteness by explicitly defining the next step or steps.

However, in an analogous art of timed start-conditions for activities in workflow management system, Leymann discloses a method wherein the schema may contain one or more conditions of incompleteness defined as an absence of the next step in the process; when a Controller reaches such a point of incompleteness it forces the user of an activity to eliminate the incompleteness by explicitly defining the next step or steps (Col. 6, Lines 29-38 – default connectors enable the workflow model to cope with exceptional events).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to combine the teachings of Leymann into the Caswell's system to further provide a method wherein the schema may contain one or more conditions of incompleteness defined as an absence of the next step in the process; when a Controller reaches such a point of incompleteness it forces the user of an activity to eliminate the incompleteness by explicitly defining the next step or steps in Caswell system.

The motivation is that it would enhance and/or improve the Caswell's system by taking, advancing and/or incorporating Leymann's system which facilitates the management of business process, provides a means to describe

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models of business processes and further drives business processes based on an associated model as once suggested by Leymann (i.e., Col. 4, Lines 44-65).

- 34. **As to claim 9**, incorporating the rejection in claim 2, Caswell discloses a method wherein the Agent component provides interface between the Controller and the Execution System; the interface includes the ability to convert the process data into a form suitable for a specific Execution System (Col. 13, Line 66 through Col. 14, Lines 12 some examples are the native text representation, i.e., EDI Electronic Data Interchange, or XML extended markup language).
- 35. **As to claim 10**, incorporating the rejection in claim 9, Caswell discloses a method wherein the Agent component could be implemented as a plugin into the Execution System (Fig. 2; Col. 2, Lines 62-63; Fig. 5; Col. 4, Lines 41-44 to encapsulate communication paths among the Agents; Col. 10, Lines 43-44 do not depend on the existence of any other agent or any particular connection for their operation; Col. 16, Lines 12-34; Col. 4, Lines 4-7 agents autonomously process individual artifacts received as reified messages at their input ports).
- 36. **As to claim 11**, incorporating the rejection in claim 3, Caswell does not disclose a method wherein a Process Controller component uses the instance of the process schema and the process instance data to determine the next step in the process execution therefore eliminating the need to place the process

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schema in the scope of the Process Controller in advance and allowing different instances of the process to have different next steps.

However, in an analogous art of timed start-conditions for activities in workflow management system, Leymann discloses a method wherein a Process Controller component uses the instance of the process schema and the process instance data to determine the next step in the process execution therefore eliminating the need to place the process schema in the scope of the Process Controller in advance and allowing different instances of the process to have different next steps (Fig. 2; Col. 9, Lines 31-39; Col. 4, Lines 44-58 – it is a schema describing all possible execution variants of a particular kind of business process).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to combine the teachings of Leymann into the Caswell's system to further provide a method wherein a Process Controller component uses the instance of the process schema and the process instance data to determine the next step in the process execution therefore eliminating the need to place the process schema in the scope of the Process Controller in advance and allowing different instances of the process to have different next steps in Caswell system.

The motivation is that it would enhance and/or improve the Caswell's system by taking, advancing and/or incorporating Leymann's system which facilitates the management of business process, provides a means to describe

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models of business processes and further drives business processes based on an associated model as once suggested by Leymann (i.e., Col. 4, Lines 44-65).

37. **As to claim 13**, incorporating the rejection in claim 12, Caswell discloses a software system comprising: one or more Agents (Fig. 2; Col. 2, Lines 62-63; Fig. 5; Col. 16, Lines 12-34); the system may have pre-existing Master Process Schema for every possible type of process (Col. 5, Lines 56-58).

Caswell does not explicitly disclose comprising one or more Process Controllers.

However, in an analogous art of timed start-conditions for activities in workflow management system, Leymann discloses comprising one or more Process Controllers (Figs 1-4; Col. 8, Lines 63-66; Col. 9, Lines 31-39; Col. 10, Lines 19-47; Col. 11, Lines 10-15).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to combine the teachings of Leymann into the Caswell's system to further provide one or more Process Controllers in Caswell system.

The motivation is that it would enhance and/or improve the Caswell's system by taking, advancing and/or incorporating Leymann's system which facilitates the management of business process, provides a means to describe models of business processes and further drives business processes based on an associated model as once suggested by Leymann (i.e., Col. 4, Lines 44-65).

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38. **As to claim 14**, incorporating the rejection in claim 13, Caswell discloses sending the process data and process schema to the Agent (Fig. 2; Col. 6, Lines 29-44).

Caswell does not explicitly disclose a software system wherein the Process Controller determines the next step in the process execution.

However, in an analogous art of timed start-conditions for activities in workflow management system, Leymann discloses a software system wherein the Process Controller determines the next step in the process execution (Col. 4, Lines 44-58).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to combine the teachings of Leymann into the Caswell's system to further provide a software system wherein the Process Controller determines the next step in the process execution in Caswell system.

The motivation is that it would enhance and/or improve the Caswell's system by taking, advancing and/or incorporating Leymann's system which facilitates the management of business process, provides a means to describe models of business processes and further drives business processes based on an associated model as once suggested by Leymann (i.e., Col. 4, Lines 44-65).

39. **As to claim 15**, incorporating the rejection in claim 14, Caswell discloses the programming user interface for modifying the process schema instance (Col. 6, Lines 65 through Col. 7, Line 2; Col. 4, Lines 16-19, 33-36).

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Although Caswell discloses the agent component (Fig. 2; Col. 2, Lines 62-63; Fig. 5; Col. 16, Lines 12-34) and the process schema (Col. 5, Lines 12-19; Col. 9, Lines 62-67; Col. 14, Lines 31-34) but does not explicitly disclose a software system wherein the Agent converts the process data into a form suitable for the Execution System.

However, in an analogous art of timed start-conditions for activities in workflow management system, Leymann discloses a software system wherein the Agent converts the process data into a form (Figs. 3-4; Col. 10, Lines 19-47; Col. 11, Lines 10-15) suitable for the Execution System (Col. 4, Lines 44-58 – the software system can work as an interpreter basically getting as input such as model).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to combine the teachings of Leymann into the Caswell's system to further provide a software system wherein the Agent converts the process data into a form suitable for the Execution in Caswell system.

The motivation is that it would enhance and/or improve the Caswell's system by taking, advancing and/or incorporating Leymann's system which facilitates the management of business process, provides a means to describe models of business processes and further drives business processes based on an associated model as once suggested by Leymann (i.e., Col. 4, Lines 44-65).

Conclusion

40. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Leymann et al., Provisioning of Software Components via Workflow
 Management Systems (Pub. No. US 2005/0049906 A1)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ben C. Wang whose telephone number is 571-270-1240. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on 571-272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BCW ₹W

March 27, 2007

TUAN DAM SUPERVISORY PATENT EXAMINER